AIR HANDLING UNIT SCHEDULE

GENERAL	UNIT NO.	AHU-1	AHU-2	AHU-3
	LOCATION	MECH 001	MECH 001	MECH 218
	SERVICE			
	DESIGN EQUIPMENT	TRANE CSSA - 8	TRANE CSSA - 4	TRANE CSSA - 4
	SYSTEM TYPE	VARIABLE AIR VOLUME - C02 DEMAND CONTROL	VARIABLE AIR VOLUME - C02 DEMAND CONTROL	VARIABLE AIR VOLUME - C02 DEMAND CONTROL
	CFM STD. AIR	4,000	1,500	2,200
	MIN. OA CFM	800	800	800
	OA SUPPLIED BY	ERU-1	ERU-1	OA LOUVER
	ECONOMIZER BY	VIA CHILLER	VIA CHILLER	OA/EA LOUVERS
ELECTRICAL	VOLTAGE	208-3-60	208-3-60	208-3-60
	MOTOR EFFICIENCY	PREMIUM	PREMIUM	PREMIUM
	STARTER/VFD FURN BY	DIV 26	DIV 26	DIV 26
	DISCONNECT SW. FURN BY	DIV 26	DIV 26	DIV 26
	SMOKE DETECTOR (SD)	YES	NO	YES
	SD FURN BY	DIV 26	---	DIV 26
	SD INSTALLED IN DUCT BY	DIV 23	---	DIV 23
	SD WIRED TO HVAC CONTROLS BY	DIV 23	---	DIV 23
	SD WIRED TO FIRE ALARM BY	DIV 26	---	DIV 26
SUPPLY FAN	DIAMETER - TYPE	AF-PLUG	AF-PLUG	AF-PLUG
	AIRFLOW, cfm	4,000	1,500	2,200
	RPM	2,300	3,220	3,220
	ESP, in.wc.	1.5"	1.5"	1.5"
	TSP, in. wc.	3.5"	3	3
	MAX-BHP	3.4	1.8	1.8
	MOTOR HP	5	2.5	2.5
	MOTOR RPM	1725	1725	1725
	STARTER OR VFD	VFD	VFD	VFD
HOT WATER COIL	EAT, deg-F.	45	45	45
	LAT, deg-F.	90	90	90
	TMBTUH	196	87	87
	MIN COIL AREA, sf.	8	4	4
	MAX AIR PD. in. wc.	0.05"	0.05"	0.05"
	COIL FACE VELOCITY	500	500	550
	FLUID	30% PROP GLYCOL	30% PROP GLYCOL	30% PROP GLYCOL
	EWT, deg-F	180	180	180
	LWT, deg-F	140	140	140
	GPM	11	4	6
	WATER PD, ft-H2O	1.2	1	1
CHILLED WATER COIL	ENT. AIR, DB/WB	80.0 / 67.0	80.0 / 67.0	80.0 / 67.0
	LVG. AIR, DB/WB	53.4 / 53.0	53.4 / 53.0	53.4 / 53.0
	TMBTUH	120	75	75
	SMBTUH	75	55	55
	NOMINAL TONS.	10	6	6
	MIN COIL AREA, sf.	8	4	4
	MAX AIR PD. in. wc.	0.39"	0.39"	0.39"
	COIL FACE VELOCITY	500	500	550
	FLUID	30% PROP GLYCOL	30% PROP GLYCOL	30% PROP GLYCOL
	EWT, deg-F	45	45	45
	LWT, deg-F	57	57	57
	GPM	30	12	17
	WATER PD, ft-H2O	25	13.5	13.5
FILTER MIX SECTION	LOCATION			
	BASIS OF DESIGN - HOUSING			
	FILTER TYPE	2" PLEATED	2" PLEATED	2" PLEATED
	FILTER RATING	8	8	8
	QUANTITY			
	SIZE			
	FILTER BAG DEPTH (MAXIMUM)			
	MIN. AREA, sf	11	9	9
	MAX FILTER FACE VELOCITY	360	360	360
	MODULE A.P.D. (CLEAN FILTERS)			
DISCHARGE ACOUSTICS	63 Hz			
(dB)	125 Hz			
	250 Hz			
	500 Hz			
	1 kHz			
	2 k Hz			
	4 k Hz			
	8 k Hz			
INLET ACOUSTICS	63 Hz			
(dB)	125 Hz			
	250 Hz			
	500 Hz			
	1 kHz			
	2 k Hz			
	4 k Hz			
	8 k Hz			
CASING ACOUSTICS	63 Hz			
(dB)	125 Hz			
	250 Hz			
	500 Hz			
	1 kHz			
	2 k Hz			
	4 k Hz			
	8 k Hz			
AHU MODULES				

ENERGY RECOVERY UNIT SCHEDULE

GENERAL	TAG	**ERU-1**
	TYPE	FIXED-PLATE ENTHALPIC
	MFR	RenewAire
	MODEL	HE2XINV
FILTER SECTION	FILTERS	2" MERV 8
(TYP-2, SUPPLY & EXH)	MIN. AREA, sf	11.1
	VELOCITY	144
OUTSIDE AIR FAN	TYPE	FC
	AIRFLOW, cfm	**1,600**
	ESP, in.wc.	0.75"
	MOTOR SPEEDS	VFD
	HP	2
EXHAUST AIR FAN	TYPE	FC
	AIRFLOW, cfm	**1,600**
	ESP, in.wc.	1.25"
	MOTOR SPEEDS	VFD
	HP	2
OVERALL DIMENSIONS	LENGTH	36"
	WIDTH	54"
	HEIGHT	37"
	OPERATING WEIGHT, lbs.	420
HEAT RECOVERY CORE	SUMMER OA DB/WB	88 / 72
	WINTER OA DB	-10
	SUMMER SA DB/WB	78.4 / 67.7
	WINTER SA DB	44.9
	SENSIBLE EFFECTIVENESS	69.0%
	SUMMER TOTAL EFF.	50.0%
	WINTER ENTHALPY EFF.	69.0%
	FROST CONTROL	NONE REQUIRED
ELECTRICAL DATA		
	V-PH-HZ	208/3/60
	UNIT MCA	26.0
	MAX FUSE SIZE	30.0
	SUPPLY AND RETURN SMOKE DETECTORS	NO

NOTES:
1. ERU MFR. SHALL PROVIDE VFD'S, NF DISCONNECT, 24VAC TRANSFORMER/RELAY PACKAGE.

BAS POINTS LIST - DISTRIBUTION

POINT NAME	QTY	DEVICE	AI	AO	DI	DO	FAIL POSITION	ALARM	NOTES
AIR TERMINAL UNITS - VAV W/REHEAT									
SPACE TEMP	13	WALL TEMP SENSOR	X					HI & LO	
MODULATE DAMPER	13	VAV BOX DAMPER ACTUATOR		X			LAST		
DAMPER POSITION	13	VAV BOX DAMPER ACTUATOR	X						
MODULATE CONTROL VALVE (UNITS W/REHEAT)	13	COIL CONTROL VALVE ACTUATOR		X			OPEN		
MODULATE CONTROL VALVE POSITION	2	COIL CONTROL VALVE ACTUATOR		X					RECEPTION & PRESIDENT'S RM
DA SENSOR	13	TERMINAL DA TEMP SENSOR	X					HI & LO	
AIR TERMINAL UNITS - ERU AIR TO AHU-1 & 2									FRESH AIR METERED TO AHU'S
SPACE CO2	4	WALL CO2 SENSOR	X					HI & LO	SEE B.O.D. NOTES BELOW
SPACE OCCUPANCY SENSING	1	SPACE OCCUPANCY SENSOR			X				RECEPTION ROOM ONLY
ERU									
VFD ENABLE	1	VFD				X			
VFD SPEED	1	VFD		X					
VFD FAULT	1	VFD			X			FAULT	
FAN STATUS	1	VFD			X			FLOW LOSS	
OA DAMPER	1	DAMPER ACTUATOR				X			
EA DAMPER	1	DAMPER ACTUATOR				X			
SUPPLY DUCT STATIC PRESSURE	1	PRESSURE SENSOR	X						
LOW TEMPERATURE	1	FREEZESTAT			X			LOW TEMP	HARD WIRED WITH DI
AHU-1 AND AHU-2									
VFD ENABLE	2	VFD				X			
VFD SPEED	2	VFD		X					
VFD FAULT	2	VFD			X			FAULT	
FAN STATUS	2	VFD			X			FLOW LOSS	
OUTSIDE AIR	2	DUCT TEMP SENSOR	X						
SUPPLY AIR	2	DUCT TEMP SENSOR	X					HI & LO	
SUPPLY DUCT STATIC PRESSURE	2	PRESSURE SENSOR	X						
CHW COIL OUTPUT	2	2-WAY CONTROL VALVE ACTUATOR		X					
CHW COIL VALVE POSITION	2	2-WAY CONTROL VALVE ACTUATOR	X						
HW COIL OUTPUT	2	2-WAY CONTROL VALVE ACTUATOR		X					
HW COIL VALVE POSITION	2	2-WAY CONTROL VALVE ACTUATOR	X						
AIR FILTER DP FOR DIRTY FILTER	2	DIFFERENTIAL PRESSURE SWITCH			X			FLOW SETPOINT	
DUCT SMOKE DETECTION (AHU-1 & 3)	2	DUCT SMOKE DETECTOR			X			ALARM	
LOW TEMPERATURE	2	FREEZESTAT			X			LOW TEMP	HARD WIRED WITH DI
AHU-3 (SAME AS AHU-1 & 2 W/ EDITS BELOW)	1	ALL POINTS ABOVE FOR AHU-1 & 2							
ECONOMIZER OA & EA DAMPERS	2	DAMPER ACTUATORS		X					MODULATE OA & EA IN SEQUENCE
CABINET UNIT HEATERS & UNIT HEATERS									
SPACE TEMP	4	WALL TEMP SENSOR	X					HI & LO	
CONTROL VALVE	4	2-WAY VALVE ACTUATOR			X				
CONTROL VALVE POSITION	4	2-WAY VALVE ACTUATOR				X	OPEN		
FAN ON - OFF	4	UNIT HEATER FAN				X			
RADIANT FLOOR TEMPERING									
SLAB TEMP (RESET ON OA)	2	SLAB TEMP SENSOR	X						
CONTROL VALVE	1	3-WAYVALVE ACTUATOR		X					
CONTROL VALVE POSITION	1	3-WAY VALVE ACTUATOR				X			
CIRCULATOR ON/OFF	1	HAND-OFF-AUTO				X			
CIRCULATOR STATUS	1	CURRENT SENSOR			X			FAULT	
MANIFOLD SUPPLY WATER TEMP	1	TEMP SENSOR	X						
MANIFOLD RETURN WATER TEMP	1	TEMP SENSOR	X						
									NOTE
POINT NAME		**DEVICE**	**AI**	**AO**	**DI**	**DO**	**FAIL POSITION**	**ALARM**	
HEATING PLANT									
PUMP VFD ENABLE	2	VFD				X			
PUMP VFD SPEED	2	VFD		X					
VFD FAULT	2	VFD			X			FAULT	
SECONDARY PUMP FAULT	2	VFD			X			FAULT	
HWS	1	TEMP SENSOR	X					HI & LO	
HWR	1	TEMP SENSOR	X						
LOOP PRESSURE	1	PRESSURE SENSOR	X						
CHILLED WATER INTERFACE									
PUMP VFD ENABLE	2	VFD				X			
PUMP VFD SPEED	2	VFD		X					
VFD FAULT	2	VFD			X			FAULT	
SECONDARY PUMP FAULT	2	VFD			X			FAULT	
CHWS - BUILDING	1	TEMP SENSOR	X					HI & LO	
CHWS - CAMPUS	1	TEMP SENSOR	X					HI & LO	
CHWR - TO CAMPUS	1	TEMP SENSOR	X						
LOOP PRESSURE	1	PRESSURE SENSOR	X						
CHWR TEMP CONTROL VALVE	1	MODULATING CONTROL VALVE					OPEN		
									NOTES
POINT NAME	**QTY**	**DEVICE**	**AI**	**AO**	**DI**	**DO**	**FAIL POSITION**	**ALARM**	
MISCELLANEOUS									
SANITARY EJECTOR PUMP STATUS	1	CONTROL PANEL CONTACT			X			FAILURE	
ELEVATOR SUMP PUMP STATUS	1	CONTROL PANEL CONTACT			X			FAILURE	
ELEVATOR SUMP PUMP ALARM	1	CONTROL PANEL CONTACT			X			HIGH LEVEL	

BASIS OF DESIGN NOTES

VARIABLE OCCUPANCY SPACES:
1. 008 LOUNGE
2. 103 CONF
3. 104 CONF
4. 106 RECEPTION

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Graphic Scale: 1" 1/2" 0 1"

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IAN A. MACDONALD
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LICENSED
PROFESSIONAL ENGINEER

REVISIONS

No.	Description	Date

PERMIT SET

UNIVERSITY OF NEW ENGLAND
PORTLAND, MAINE

ALUMNI HALL RENOVATION

MECHANICAL SCHEDULES

Project Number	14525
Date	May 1, 2015
Drawn by	REW
Checked by	HAG

M4

Scale AS NOTED

A1 | MECHANICAL SCHEDULES
NONE

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